

### REMARKS

This application, as amended herein, contains claims 1-34, and newly added claim 35-49.

The Examiner's requirement for a new double-spaced specification and new claims in one and one-half spacing is respectfully traversed. First, the claims are fact in one and one-half line spacing. Second, the requirements of 37 C.F.R. 1.52(b)(2)(i) specifically state that both the specification (and claims) can utilize one and one-half line spacing. In addition, the undersigned has filed hundreds of patent applications within the last 23 years and not once has there been an objection to one and one-half line spacing in the specification or claims. Finally, in view of the fact that amendment practice has changed significantly, there are very few occasions where interlineation in the specification or claims is required, as new paragraphs and new claim listings are routinely provided. Thus, it is respectfully requested that the Examiner withdraw the requirement for new application papers.

Claims 21 and 30 have been amended to address the Examiner's rejection of these claims under 35 U.S.C. 1112, second paragraph. It is respectfully submitted that these claims are now definite.

Claims 1-14 and 17-34 were rejected as being obvious over Smith in view of Barry. Claims 15 and 16 were rejected as being obvious over Smith in view of Barry in

further view of Swildens et al. These rejections are respectfully traversed.

Applicants' invention, as set forth in claim 1, as amended herein, is directed to a method distributing at least one application in a communication network. The method comprising the steps of redirecting to one server of a plurality of proxy servers at locations distributed throughout the network, at least one service request received from a client for said at least one application; determining a set of programs required at said one server to fulfil said request for said at least one application; and executing said set of programs.

Thus, Applicants' invention, as set forth in claim 1, as amended herein, provides the advantage of distributing an application that may be requested by client to a plurality of proxy servers located throughout the network. A set of programs required to fulfil the application is determined. The set of programs is then executed.

Applicants' invention, as set forth in claim 1, has the advantage of the programs being executed at any one of the plurality of servers. Advantageously, the proxy server executing the application may be positioned so as to greatly decreased latency time for the application to provide the service desired by the client. Neither Smith nor Barry teach or suggest such an advantageous arrangement. In Smith, all the proxy servers tend to be in close proximity to one another. This also is the case for Barry. Neither Smith nor Barry teach or suggest that the

proxy servers may be distributed throughout the network so that one that is particularly convenient to the client in terms of assuring prompt service, is used to service that client. In view of the above, it is respectfully submitted that claim 1 is directed to patentable subject matter.

Independent apparatus claim 15 and independent method claim 21 have been amended in a manner analogous to the amendment to claim 1. For the reasons set forth above with respect to claim 1, it is respectfully submitted that claims 15 and 21 are also directed to patentable subject matter.

Newly added claim 35, which depends from claim 1, recites the further step of selecting the one server to be closer to a client requesting a service provided by the application, than other of the plurality of proxy servers. Claim 35, and analogous claims 40 and 45, which depend from independent claims 15 and 21, respectively, specifically provide the advantage of reduced latency, as noted above with respect to claim 1. Thus, it is respectfully submitted that claims 35, 40 and 45 are directed to patentable subject matter.

Newly added claim 36, which depends from claim 1, recites the further step of providing administrative control of the application with a backend server, and selecting the one server to be closer to a client requesting a service provided by the application than the backend server. Thus even though the backend server may be located at a greater distance from the client, since it is providing

administrative control, while the bulk of the application programs are run on a closer processor, latency performance is not degraded. Thus it is submitted that claim 36, and analogous claims 41 and 46, which depend from independent claims 15 and 21 respectively, are also directed to patentable subject matter.

Newly added Claim 37, depends from claim 1 and recites that the method further comprising storing at least a portion of the programs on each of the proxy servers. This provides excellent latency performance. It is counter-intuitive with respect to what is taught in Smith, where it is suggested that such duplicate storage represents undue system overhead (Smith, column 1, lines 25-29). Thus, it is submitted that claim 37, and analogous claims 42 and 47, which depend from independent claims 15 and 21 respectively, are also directed to patentable subject matter.

Newly added claim 38, which depends from claim 1, recites providing a backend server in communication with each of said proxy servers for administrative control of each of said proxy servers. The advantages of this approach are set forth above with respect to claim 36. It is also noted that in accordance with claim 38, administrative control thus need not be duplicated at each of the proxy servers. Thus, it is submitted that claim 38, and analogous claims 43 and 48, which depend from independent claims 15 and 21 respectively, are also directed to patentable subject matter.

Newly added claim 39, which depends from claim 1, recites providing a backend server in communication with the client for providing services for portions of the application that are not readily distributable to the proxy servers. Thus, the application is advantageously split between those provided by the proxy with low latency, and those provided by the backend server, possibly with higher latency. This approach tends to optimize system performance, while minimizing overhead. It is submitted that claim 39, and analogous claims 44 and 49, which depend from independent claims 15 and 21 respectively, are also directed to patentable subject matter.

Independent claim 17 has been amended herein to recite a plurality of proxy servers each having a first set of programs used in said at least one application and a second set of programs retrieved from a backend server and executed locally to satisfy part of at least one request received from a client. Thus, Applicants' invention, as set forth in claim 17, advantageously has portions of the application on each of the proxy servers distributed throughout the network, and retrieves the other portions when necessary from the backend server. These elements, in combination with the other elements of claim 17, are not rendered obvious by any combination of Smith and Barry. As noted above, Smith specifically teaches away from duplication on a servers because of the additional incurred overhead. In view of the above, it is respectfully submitted that claim 17 is directed to patentable subject matter.

In a similar manner, claim 18 has been amended to recite a first set of programs used for at least one application and distributed to a plurality of proxy servers within the network, and a second set of programs used for said at least one application and executed locally by the backend server. Claim 18 is not rendered obvious by Smith or Barry or any combination thereof. It is therefore respectfully submitted that claim 18 is also directed to patentable subject matter.

The remaining claims depend from one of the independent claims discussed above. These claims recite further elements, which in combination with the elements from which they depend, are not disclosed or suggested in the art of record. For the reasons set forth above with respect to the independent claim from which they depend, it is submitted that these claims are also directed to patentable subject matter.

The examiner is invited to contact the undersigned to resolve any remaining issues.

Please charge the fee of \$270 for fifteen additional added dependent claims to deposit account no. 50-0510. A duplicate of this last page is enclosed.

Respectfully submitted,

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